

## CLEAN COPY OF THE NEW CLAIMS

*Please add the following new claims:*

25. (New) A bacterium comprising an isolated polynucleotide which encodes an acyl-CoA synthase comprising the amino acid sequence of SEQ ID NO: 2.

26. (New) The bacterium of claim 25, wherein said bacterium is a coryneform bacterium selected from the group consisting of *Corynebacterium glutamicum*, *Corynebacterium acetoglutamicum*, *Corynebacterium acetoacidophilum*, *Corynebacterium thermoaminogenes*, *Corynebacterium melassecola*, *Brevibacterium flavum*, *Brevibacterium lactofermentum* and *Brevibacterium divaricatum* or from the species *Escherichia coli*.

B<sup>2</sup>  
27. (New) The bacterium of claim 25, wherein said acyl-CoA synthase encoded by said isolated polynucleotide is overexpressed.

28. (New) The bacterium of claim 27, wherein said over-expression is achieved by increasing the number of copies of said isolated polynucleotide coding for said acyl-CoA synthase.

29. (New) The bacterium of claim 28, wherein said isolated polynucleotide coding for said acyl-CoA synthase is comprised in a plasmid vector.

30. (New) The bacterium of claim 29, wherein said plasmid vector is pJC1fad15 deposited under *Corynebacterium glutamicum* DSM 13249.

31. (New) An isolated polynucleotide comprising a polynucleotide which encodes an acyl-CoA synthase comprising the amino acid sequence of SEQ ID NO: 2.

32. (New) The polynucleotide of claim 31, wherein said polynucleotide is a recombinant DNA which is capable of replication in coryneform bacteria.

33. (New) The polynucleotide of claim 31, wherein said polynucleotide is an RNA.

34. (New) An isolated polynucleotide, wherein said isolated polynucleotide is selected from the group consisting of

- (i) a polynucleotide comprising SEQ ID NO: 1 or a fragment thereof, and
- (ii) a polynucleotide comprising nucleotides 247 to 2103 of SEQ ID NO: 1 or a degenerate variant thereof,

and wherein said isolated polynucleotide encodes an acyl-CoA synthase.

35. (New) The isolated polynucleotide of claim 34, wherein said acyl-CoA synthase comprises the amino acid sequence of SEQ ID NO: 2.

36. (New) An isolated polynucleotide comprising at least 15 consecutive nucleotides selected from SEQ ID NO: 1 or the complete complement thereof, wherein said isolated polynucleotide is a primer in a polymerase chain reaction for the synthesis of a polynucleotide which encodes an acyl-CoA synthase.

37. (New) An isolated polynucleotide comprising at least 15 consecutive nucleotides selected from SEQ ID NO: 1 or the complete complement thereof, wherein

B<sup>2</sup>  
Cont

said isolated polynucleotide is a probe in a hybridization reaction for the isolation of a polynucleotide which encodes an acyl-CoA synthase.

38. (New) The polynucleotide of claim 36, wherein said acyl-CoA synthase comprises the amino acid sequence of SEQ ID NO: 2.


39. (New) The polynucleotide of claim 37 wherein said acyl-CoA synthase comprises the amino acid sequence of SEQ ID NO: 2.

40. (New) An isolated polynucleotide comprising the complete complement of SEQ ID NO: 1.

41. (New) A vector comprising the isolated polynucleotide of claim 7.

42. (New) A vector comprising the isolated polynucleotide of claim 10.

43. (New) A vector comprising the isolated polynucleotide of claim 26.--



B<sup>2</sup>